

CLAIMS AMENDMENTS

What is claimed is:

1. (Currently amended) A method of making a magnetorheological device, said method comprising, providing combination comprising:

(A)—a container at a magnetorheological fluid manufacturing location, the container comprised of a first container end, a second container end and a wall extending between the first and second container ends, the container defining a chamber, the first and second container ends being closed, the container further comprising an inlet port and a discharge port;

(B)—a mixing element located in the chamber;

(C)—a driven member comprising a first member end made integral with the mixing element and a second member end located outside of the chamber, the second member end including a first coupling means;

dispersing a plurality of soft magnetic particles in a liquid carrier to provide a magnetorheological fluid, said magnetorheological fluid having a selected soft magnetic particle density,

filling said container via said inlet port at said magnetorheological fluid manufacturing location with said magnetorheological fluid having said selected soft magnetic particle density,

transporting said magnetorheological fluid in said container to a destination location,

(D)—~~motive force supplying means adapted to be removably located at one container end, the motive force supplying means comprising second coupling means adapted to be coupled with~~ coupling a motive force to the first coupling means to drive said driven member and integral mixing element at said destination location in order to provide said selected soft magnetic particle density,

transferring a portion of said magnetorheological fluid with said selected soft magnetic particle density through said discharge port to a magnetorheological device

at said destination location to provide a magnetorheological device containing said magnetorheological fluid at said destination location, said magnetorheological device containing said magnetorheological fluid with said selected soft magnetic particle density,

returning said container to a magnetorheological fluid manufacturing location and refilling said container with a magnetorheological fluid comprised of a plurality of soft magnetic particles in a liquid carrier

;and

(E) — ~~a volume of field responsive material in the chamber.~~

2. (Currently amended) The method combination as claimed in claim 1 wherein ~~the field responsive material is magnetorheological fluid~~ dispersing a plurality of soft magnetic particles in a liquid carrier to provide a magnetorheological fluid comprises dispersing a plurality of iron particles in an oil.

3. (Currently amended) The method combination as claimed in claim 1 wherein the container is a drum having a volumetric capacity equal to fifty-five gallons.

4. (Currently amended) The method combination as claimed in claim 1 wherein the container is comprised of a drum having a volumetric capacity of about fifty-five gallons.

5. (Currently amended) The method combination as claimed in claim 1 wherein the discharge port is located between the first and second container ends.

6. (Currently amended) The method combination as claimed in claim 5 wherein the discharge port is located in the container wall.

7. (Currently amended) The method combination as claimed in claim 1 wherein the discharge port is located at the first end.

8. (Currently amended) The method combination as claimed in claim 5 wherein the inlet is located at the first container end.
9. (Currently amended) The method combination as claimed in claim 6 wherein the inlet is located at the first end.
10. (Currently amended) The method combination as claimed in claim 1 wherein the mixing element is comprised of a squirrel cage.
11. (Currently amended) The method combination as claimed in claim 1 wherein the mixing element is comprised of a propeller mixer.
12. (Currently amended) The method combination as claimed in claim 1 wherein the mixing element is further comprised of an axial weld mixer.
13. (Currently amended) The method combination as claimed in claim 1 wherein the mixing element is further comprised of a hydrofoil mixer
14. (Currently amended) The method combination as claimed in claim 1 wherein the mixing element is further comprised of a vortex mixer.
15. (Currently amended) The method combination as claimed in claim 1 wherein the first end is closed by a lid, the lid being secured to the first container end by attachment means.
16. (Currently amended) The method combination as claimed in claim ~~15~~ 14 wherein the attachment means comprises means for indicating if the lid is removed.
17. (Currently amended) The method combination as claimed in claim 1 wherein the motive force ~~supplying means~~ is comprised of an electric motor.

18. (Currently amended) The method combination as claimed in claim 1 wherein the first ~~and second~~ coupling means ~~are~~ is comprised of a torque coupling couplings.

19. (Currently amended) The method combination as claimed in claim 17 wherein the electric motor is removably coupled to the container by at least two toggle clamps that engage flange means on the container.

20. (Currently amended) The method combination as claimed in claim 1 wherein the container further comprises a flow conduit flow connected to the inlet port, the flow conduit extending into the chamber, the flow conduit having a conduit discharge end located proximate the container wall.

21. (Currently amended) The method combination as claimed in claim 1 wherein ~~the field responsive material is magnetorheological fluid~~ dispersing a plurality of soft magnetic particles in a liquid carrier to provide a magnetorheological fluid comprises dispersing a plurality of carbonyl iron particles with a mean diameter between 0.1 μm and about 500 μm .

22. (Currently amended) The method combination as claimed in claim 1 wherein the discharge port is located at the second end.

23. (Currently amended) The method combination as claimed in claim 1 wherein at least one baffle is located in the chamber.

24. (Currently amended) The method combination as claimed in claim 23 wherein the at least one baffle is made integral with the container wall.

25. (Currently amended) The method combination as claimed in claim 23 wherein the at least one baffle is substantially perpendicular to the wall.

26. (Currently amended) The method combination as claimed in claim 23 wherein the at least one baffle has a rectangular shape.

27. (Currently amended) The method combination as claimed in claim 23 wherein the at least one baffle extends axially between the container ends.

28. (Currently amended) The method combination as claimed in claim 1 wherein the container is comprised of a drum having a volumetric capacity between about two hundred fifty and about six hundred gallons.

29. (Currently amended) A method for providing a magnetorheological fluid with a selected soft magnetic particle density, said method comprising: providing a container, said container having ~~container comprising~~: a first container end, a second container end and a wall extending between the first and second container ends, the container defining a chamber, ~~the first and second container ends being closed, the container further comprising an inlet port and a discharge port~~; a mixing element fixedly located in the chamber; a driven member comprising a first member end made integral with the mixing element and a second member end located outside of the chamber, the second member end including a first coupling means; providing a magnetorheological fluid having a selected soft magnetic particle density, storing said magnetorheological fluid in said container chamber, coupling a motive force to said first coupling means and driving said driven member and said integral mixing element in order to remix said stored magnetorheological fluid in said container chamber to provide said selected soft magnetic particle density, dispensing said remixed stored magnetorheological fluid from said container ~~and a volume of field responsive material located in the chamber.~~

30. (Currently amended) The method ~~container~~ as claimed in claim 29 wherein providing a magnetorheological fluid having a selected soft magnetic particle density comprises dispersing a plurality of iron particles in an oil ~~wherein the container comprises a~~
~~— motive force supplying means adapted to be removably located at one~~
~~— container end, the motive force supplying means comprising second coupling~~
~~— means adapted to be coupled with the first coupling means to drive said driven~~
~~— member and integral mixing element.~~

31. (Currently amended) The method ~~container~~ as claimed in claim 29 wherein the container is made integral with a base.

32. (Currently amended) The method ~~container~~ as claimed in claim 29 wherein providing a magnetorheological fluid having a selected soft magnetic particle density comprises dispersing a plurality of carbonyl iron particles with a mean diameter between 0.1 μm and about 500 μm in a liquid oil ~~claim 31 wherein the base is a palette.~~

33. (Currently amended) The method ~~container~~ as claimed in claim 29 wherein said container includes a ~~the~~ discharge port is located on the wall near the second end, the discharge port being substantially enclosed by a shroud.